



THE COUNTERFEIT SILK ROAD

IMPACT OF COUNTERFEIT CONSUMER PRODUCTS
SMUGGLED INTO THE UNITED STATES

PREPARED FOR:

THE BUY SAFE AMERICA COALITION

BY:

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THE IMPACT OF COUNTERFEIT CONSUMER PRODUCTS SMUGGLED INTO THE UNITED STATES

EXECUTIVE SUMMARY

The Buy Safe America Coalition represents a diverse group of responsible retailers, consumer groups, manufacturers, intellectual property advocates and law enforcement officials who support efforts at all levels of government to protect consumers and communities from the sale of counterfeit and stolen goods.

One important issue facing US businesses is the massive growth in the availability and sales of illicit products, both from counterfeit imports — increasingly from China — and from products stolen from legitimate retailers and sold through online marketplaces, where the anonymity of a screenname has made it easier and more profitable to fence counterfeit and stolen goods. The Coalition asked John Dunham & Associates (JDA) to examine the data around these illicit sales to determine how they impact the US economy, federal tax revenues, and criminal activity.

This is the first of a series of papers examining the issue of counterfeit and stolen goods and its effect on the United States economy. This analysis will focus on the importation of illicit products, notably counterfeits that violate producers' intellectual property rights. Future analysis will examine the effects of domestic smuggling, the resale of stolen goods, and the effects of contraband on overall criminal activity.



According to the analysis:

- A large share of contraband items are delivered to US consumers by mail or by express consignment. These transactions account for over 60.8 percent of all seizures by the US customs service and over 90 percent of intellectual property rights (IPR) seizures. The growth in these types of shipments has increased along with the use of online marketplaces. Amazon, for instance, now derives more than 75 percent of their ecommerce revenue from marketplace sales.¹
- In effect, as companies like the Chinese ecommerce marketplace Alibaba and the Amazon marketplace, have linked more consumers to more shippers, many companies producing illegitimate products have gained access to unwitting consumers in America.
- The bulk of counterfeit products to the US come from China and its dependent territories, accounting for over 90.6 percent of all cargo with IPR violations. Of the \$1.23 billion in total IPR violations intercepted, \$1.12 billion was from China.
- Examining just those data where CBP can provide an HS code, in some cases, the amount of contraband cargo is nearly equal to the entire import base.² For example, imports of certain sweaters, jumpsuits and toys from China are almost 100 percent contraband, as are large amounts of handbags, jewelry and belts.
- While there is substantial academic literature on the smuggling of narcotics, people and tobacco, there is very little written on counterfeit products. Using a very conservative model it is estimated that \$44.3 billion in additional illicit cargo is escaping detection.
- These lost sales alone mean that over 39,860 jobs in wholesaling and nearly 283,400 retail jobs are lost due to the impact of counterfeit goods skirting normal trade channels. All told, the sale of counterfeit items is expected to cost the wholesale and retail sectors of the US economy nearly 653,450 full-time equivalent jobs, that pay over \$33.6 billion in wages and benefits to US workers.
- It is estimated that the smuggling of counterfeit goods costs the US government nearly \$7.2 billion in personal and business tax revenues alone.
- This analysis is based on the current level of CBP intercepts of illicit cargo. It is likely that the number of illegal imports is much larger than even estimated here.

¹ In 2020, \$295 billion worth of products were sold by third-parties on the Amazon marketplace. Meanwhile, Amazon's own retail sales were only \$180 billion. Kaziukenas, Jouzas, *Marketplaces Year in Review 2020*, Marketplace Pulse, at: www.marketplacepulse.com/marketplaces-year-in-review-2020

² Over 7.2 percent of the cargo identified as seized in the data provided by CBP was labeled as CGD, CID, EVD, GEN, NONE, VEH or blank.



BACKGROUND

The Buy Safe America Coalition represents a diverse group of responsible retailers, consumer groups, manufacturers, intellectual property advocates and law enforcement officials who support efforts at all levels of government to protect consumers and communities from the sale of counterfeit and stolen goods.

One important issue facing US businesses is the massive growth in the availability and sales of illicit products, both from counterfeit imports — increasingly from China — and from products stolen from legitimate retailers and sold through online marketplaces where the anonymity of a screenname has made it easier and more profitable to fence counterfeit and stolen goods. The Coalition asked John Dunham & Associates (JDA) to examine the data around these illicit sales to determine how they impact the US economy, federal tax revenues, and criminal activity.

This is the first of a series of papers examining the issue of organized retail crime (ORC), and its effect on the US economy. This analysis will focus on the importation of illicit products, notably counterfeits that violate producers' intellectual property rights. Future analysis will examine the effects of domestic smuggling, the resale of stolen goods, and the effects of contraband on overall criminal activity.

CUSTOMS SERVICE DATA

One source of illicit products sold through fences and ecommerce sites are counterfeit products brought into the United States illegally. According to US Customs and Border Protection (CBP), most counterfeit products now come through international mail and express courier services. Since FY2013, CBP has seen a 168 percent increase in the number of express consignment and international mail shipments, and in FY 2019, the agency processed over 600 million express consignment and international mail shipments.³

Table 1
Cargo Seized by CBP by Mode of Transportation

Mode of Transportation	Value	Percent
Express Consignment	\$ 550,850,543	44.8%
Commercial Vessel	\$ 277,761,292	22.6%
Commercial Air	\$ 196,568,270	16.0%
Mail	\$ 179,544,146	14.6%
Other	\$ 12,818,618	1.0%
Train	\$ 12,327,801	1.0%
Truck	\$ 1,052,214	0.1%
Total	\$ 1,230,922,884	100.0%

³ CBP Trade and Travel Report: Fiscal Year 2019, US Customs and Border Protection, January 2020, at: <https://www.cbp.gov/sites/default/files/assets/documents/2020-Jan/CBP%20FY2019%20Trade%20and%20Travel%20Report.pdf>

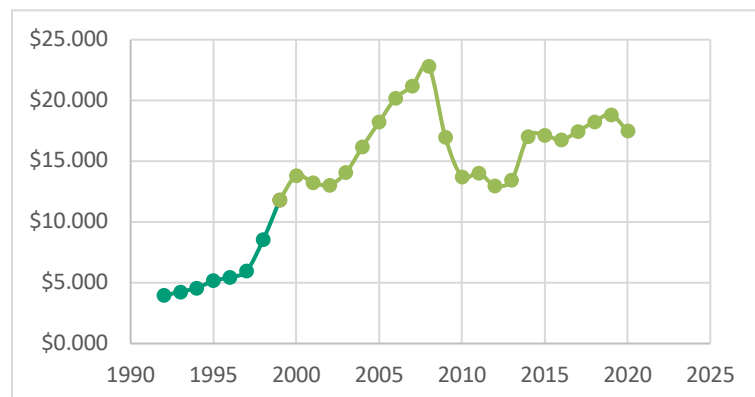


In FY2019, over 90 percent of intellectual property rights (IPR) seizures were found in express and international mail shipments,⁴ and based on data provided through a freedom of information request, over 59.3 percent of all goods seized by CBP were being shipped by mail or international express consignment services.⁵ This compares to just 22.6 percent arriving by ocean vessel. Table 1 outlines the source of illicit shipments seized by carrier type.

This is not a new phenomenon. According to CBP data, mail and express consignment services have been the primary source of IPR seizures since at least 2007.⁶ During that year, seizures from these sources accounted for roughly 75 percent of all interceptions, a number which fell to roughly 70 percent until FY 2013, when they rose to about 90 percent. Seizures from express consignment and mail deliveries have averaged 89.6 percent since then.

The growth in IPR seizures from mail and express consignment delivery has closely tracked the growth in ecommerce sales.

Figure 1
Growth in Section 321 Shipments



Rather than being imported by smugglers and then sold through illegitimate retailers, street vendors or ecommerce sites, according to CPB, the US consumer now initiates most imports, most of which are *Section 321 shipments* that meet de minimis requirements to

Smugglers Hide Behind Ecommerce Services

The growth in IPR violations has closely tracked the growth in ecommerce. Before the advent of Alibaba, Amazon, Ebay, and other on-line services, smugglers had to ship goods to a network of traffickers who used street dealers and other physical means to get counterfeit products to market. This can still be seen today in places like New York City, where operatives working for criminal networks sell counterfeit watches and handbags on the street.

Now, with the advent of ecommerce, most of these illicit transactions are enacted by the buyer when they order products on-line, through catalogues or by phone. In many of these cases, third-party sellers working under the umbrella of legitimate ecommerce sites, then directly ship the counterfeit product to the seller either by mail or courier service. Many, if not most of these consumers may not be aware that the products are illicit in any way.

The growth in these transactions closely matches the growth in ecommerce services. In fact, there is a strong correlation between the growth in ecommerce services and the percentage of IPR seizures made from mail or express courier deliveries. As ecommerce shopping has grown from about 3 to about 10 percent of all retail transactions, the percentage of seizures from non-cargo shipments has risen as well, from about 70 to nearly 90 percent.

This growth parallels changes in ecommerce marketplaces, with the Chinese Alibaba launching AliExpress.com in 2010 and 11 Main in 2014, a site geared to the US market that hosts more than 1,000 merchants in categories such as clothing, fashion accessories and jewelry. Meanwhile, Amazon.com, which began as an online book broker in 1995, launched its *Prime* service in 2005, the same year that Etsy began its service for third-party retailers.

A significant increase in these shipments began in 2014 when Amazon launched its *Marketplace* for third-party retailers.

⁴ Ibid.

⁵ Freedom of Information Act (FOIA) request CBP-2020-080130 to U.S. Customs and Border Protection (CBP), September 14, 2020. Seizure data from October 2018 through September 2019.

⁶ The earliest year for which data are available. See: *IPR Annual Seizure Statistics*, U.S. Customs and Border Protection, Office of Trade, Various Years at: <https://www.cbp.gov/trade/priority-issues/ipr/statistics>

enter duty-free into the US. Generally, these are shipments with a value of \$800 or less.⁷

As Figure 1 shows, Section 321 shipments have grown dramatically over the past 35 years, from just around \$4.0 billion in 1992 to \$17.5 billion last year.⁸ While part of this is due to inflation, the largest increases occurred as companies like Alibaba and Amazon were promoting their ecommerce services to outside parties. It is interesting to note that overall, 321 shipments fell dramatically following the 2007-2008 recession and have stabilized in the \$18 billion range since then (see box).

As expected, the fastest growth in 321 shipments in dollar terms has been from the People's Republic of China, with other major trade partners like Mexico and Germany following at a distant 2nd and 3rd place.

Table 2
Growth in Section 321 Shipments by Exporting Country

Country	Growth (\$)	Country	Growth (%)
China	\$ 3,394,006,143	Djibouti	27636.0%
Mexico	\$ 1,595,827,914	Niue	17293.8%
Germany	\$ 596,736,024	Bosnia & Herzegovina	10706.2%
Italy	\$ 302,611,914	Kyrgystan	10420.4%
Taiwan	\$ 291,530,755	Laos	7993.5%
South Korea	\$ 235,785,303	Sierra Leone	6521.1%
Ecuador	\$ 159,471,486	St. Helena	5794.6%
Vietnam	\$ 151,085,343	Ethiopia	5555.7%
Columbia	\$ 147,449,646	Bangladesh	5458.9%

Examining the seizure data provided by the customs service shows that almost 36.9 percent of all shipments intercepted were Section 321 shipments; however, these represented just 0.6 percent of the total value of products seized by the customs service. Table 3 below shows how the vast majority of shipments with IPR violations seized by the CBP are generally small in size.

⁷ Op. cit., *CBP Trade and Travel Report*.

⁸ Data from USA Trade Online, US Department of Commerce, Bureau of the Census, at: <https://usatrade.census.gov/index.php?do=login>



Table 3**Cargo Seized by CBP by Value of Shipment**

Value Range	Number of Shipments Seized	Percent of Shipments Seized
\$0-\$100	3,764	6.2%
\$101-\$800	18,548	30.6%
\$801-\$1,000	3,315	5.5%
\$1,001-\$5,000	19,793	32.7%
\$5,001-\$10,000	5,210	8.6%
\$10,001-\$100,000	8,198	13.5%
\$100,001-\$1,000,000	1,561	2.6%
Over \$1,000,000	153	0.3%
Total	60,542	100.0%

Obviously, with so many small shipments being drop-shipped to consumers from sources located all over the world, it is difficult to ensure that counterfeit and dangerous products don't reach American households. Fortunately for law enforcement, the shipments that do violate IPR, or other laws, originate mainly from China or its dependent territories of Macau and Hong Kong, meaning that the customs service can concentrate on these particular countries of origin.

Again, looking at the seizure statistics, over 90.6 percent of all cargo with IPR violations comes from China or its dependent territories. Of the total \$1.23 billion in IPR violations intercepted, \$1.12 billion was from China. This is equal to over 29.0 percent of all Section 321 shipments from China and its dependent territories. Compare this to the \$0.11 billion intercepted from all other countries – just 0.08 percent of shipments.

This cargo tends to be concentrated into just a few products. Examining just those data where CBP can provide an HS code, in some cases, the amount of contraband cargo is nearly equal to the entire import base.⁹ For example, imports of certain sweaters, jumpsuits and toys are almost 100 percent contraband, as are large amounts of handbags, jewelry and belts.

⁹ Over 7.2 percent of the cargo identified as seized in the data provided by CBP was labeled as CGD, CID, EVD, GEN, NONE, VEH or blank.

As Table 4 on the following page shows, nearly all these products emanate from China and its dependent territories. No other country is the source for this much IPR related contraband, only Turkey (which represents 1.2 percent of contraband sales) and Vietnam (1.1 percent), even top one percent. China, on the other hand, accounts for 90.6 percent of all seized goods.¹⁰ In addition, contraband imports from China are highly skewed toward parcels and general mail, suggesting that a large portion are drop-shipped via an

Internet sale. Nearly 60.4 percent of all of this IPR-related contraband cargo seized from China entered the country this way, while a smaller share, 49.0 percent, came via parcel from other countries.

It's Not Just Fancy Watches

Buying a fake Rolex or Fendi bag on New York City's Canal Street is seen by many as an innocent tourist experience. However, it is not, in that it costs American companies billions of dollars in lost sales, and often sends money to gangs, terrorist organizations and even North Korea.

But smuggling of illicit products goes well beyond the designer brands featured on Canal Street. According to Fox Business, the Customs Service intercepted 171,460 fake N95 masks that originated in China. (<https://www.foxnews.com/us/cbp-intercepts-counterfeit-n95-masks-worth-350k-originated-china>)

The counterfeit masks, which would be used to protect front-line workers from infections, such as COVID-19, came in boxes with the National Institute for Occupational Safety and Health logo on them.

CBP has seized approximately 18 million counterfeit masks in the first three months of 2021 – well above the 12 million that the agency seized for all of fiscal year 2020 and a mere 1,300 in fiscal year 2019.

To counteract the problem, CBP ran a public awareness campaign on the "Truth Behind Counterfeits" during FY2019. The campaign, which was intended to educate the public on the negative impacts associated with the purchase of counterfeit goods, highlighted how purchasing knockoffs can damage the US economy, destroy American jobs, support criminal activity, and be harmful to the health and safety of consumers.¹¹

While it is impossible to fully document the extent of contraband goods entering US commerce, the very fact that such a large percentage of overall recorded imports are captured by the customs service for certain product categories suggests that most other recorded cargo is likely being legitimately shipped, at least in the case of items like handbags, garments, jewelry, electronic parts and certain chemicals. What is not known is what comes in through the black market, where the good is never recorded as entering the country. With such a small amount of cargo entering US customs territory over land, this may be a major source for these goods.¹²

¹⁰ Op. cit., Freedom of Information Act (FOIA) request CBP-2020-080130.

¹¹ Op. cit., *CBP Trade and Travel Report*.

¹² As it is with illegal narcotic drugs.



ESTIMATES OF ADDITIONAL SMUGGLED CONTRABAND PRODUCTS

The Danger of Illicit Products

Counterfeit products do not only cause economic losses, as legitimate manufacturers, wholesalers and retailers see their markets undercut by products violating international property rights regulations, but illicit products can also be extremely dangerous.

For example, an investigation by reporters with the Wall Street Journal, found 4,152 items for sale on Amazon's Marketplace that have been declared unsafe or banned by federal regulators, or have deceptive labels. These include 116 products that were falsely listed as "FDA-approved" including 98 eyelash-growth serums that never undertook the drug-approval process to be marketed as approved. It also included 80 listings for infant sleeping wedges the FDA has warned can cause suffocation. (Wall Street Journal, August 23, 2019)

According to a recent report by the Department of Homeland Security, *counterfeiting is no longer confined to street-corners and flea markets*. The report cites figures from the Organization for Economic Cooperation and Development (OECD) which suggest that the amount of counterfeit goods traded internationally was \$509 billion in 2016.¹³ While this is the worldwide figure, the amount of counterfeit products imported into the United States alone is staggering.

Using the data from the customs service, and US overall trade data, it is possible to estimate the overall scope of contraband goods being imported into the United States. It is obvious from the outset that the Customs Service is not intercepting anywhere near the volume of contraband cargo entering the

country, for were they, there would be no counterfeit handbags, perfume or Gucci watches being sold on the streets of America. But while data on what is intercepted are available, what is not intercepted is, by definition, unknown. In addition, while there is substantial academic literature on the smuggling of narcotics, people and tobacco, there is very little written on counterfeit products.¹⁴

Using a Monte Carlo analysis to determine the total size of the illicit import market (see Methodology), gives an estimated total market of over approximately \$45.5 billion, of which the customs service intercepted \$1.2 billion, or about 2.7 percent. This suggests that as much as 10 percent of the counterfeit goods shipped worldwide come to the United States. Table 5 on the following page shows the estimated illegitimate imports by major category. Over 99.3 percent of the products are manufactured goods, however, there are products classified under the agriculture, mineral and other sectors as well. Of these, most are food products (see box), while others are items made of glass, crystal and stone.

¹³ Combating Trafficking in Counterfeit and Pirated Goods: Report to the President of the United States, US Department of Homeland Security, Office of Strategy, Policy & Plans, January 24, 2020, at: https://www.dhs.gov/sites/default/files/publications/20_0124_plcy_counterfeit-pirated-goods-report_01.pdf

¹⁴ The most detailed literature concerns cigarette smuggling, both international and domestic. See the Methodology section for details on how this is used to estimate overall smuggling of counterfeit goods.

Table 4**Major Contraband Categories Intercepted by US Customs**

HS Code	Product	Contraband	Contraband from China	Contraband as pct of Legitimate Chinese Imports
7117199000	Other Imitation Jewelry Of Base Metal (kg)	\$ 412,878,484	\$ 383,051,477	39.21%
7117909000	Othr Imit Jwelry Ov \$.20 Pr Dz Pcs O Prts (kg)	\$ 222,115,977	\$ 211,471,534	53.65%
4203300000	Belts & Bandoliers With Or Without Buckles (no)	\$ 52,499,758	\$ 48,726,800	9.92%
3303003000	Perfumes And Toilet Waters Containing Alcohol (kg)	\$ 42,826,986	\$ 27,413,044	1.83%
6110303005	B/g Sweater & Smlr Art As Plyst Pt Of Ot mmf, Knit (doz)	\$ 33,011,504	\$ 30,440,792	98.08%
4202299000	Handbags,nesoi (no)	\$ 31,981,086	\$ 27,844,980	67.70%
9004100000	Sunglasses (doz)	\$ 30,968,007	\$ 29,164,031	1.85%
4202216000	Handbags, Outer Surface Leather, val Not Over \$20 E (no)	\$ 27,072,304	\$ 25,307,061	18.75%
8421210000	Water Filtering Or Purifying Machinery & Apparatus (no)	\$ 26,253,183	\$ 25,034,297	1.95%
8517700000	Parts Or Apps For Trasmisit/recp Of Voice/img/data (no)	\$ 25,033,796	\$ 22,040,444	0.54%
4202322000	Art For Pocket Or Handbg, of Plastic Sheeting, nesoi (no)	\$ 23,513,798	\$ 19,820,708	25.46%
6103431550	Men's Shorts Of Other Synthetic Fibers, Knit (doz)	\$ 19,984,185	\$ 18,951,185	5.59%
7117196000	Othr Toy Jewelry, Base Metal, Not Over 8 Cents Ea (kg)	\$ 17,737,171	\$ 16,927,078	94.72%
6211431007	W/g Cvrals & Sim Apparel mmf, Insltd Nesoi, Nt Kt (doz)	\$ 17,032,176	\$ 16,370,498	97.08%
4202219000	Handbags, outer Surface Of Leather, val Over \$20 Ea (no)	\$ 14,299,405	\$ 11,960,259	0.79%
Total		\$ 1,230,922,884	\$ 1,115,732,323	0.05%

The wide range of products being smuggled from China is hard to imagine. In February of this year, the CBP confiscated 36 counterfeit guitars at Dulles Airport.¹⁵ Some of these were even autographed with fake signatures.

Based on these confiscation data, the universe of smuggled products violating international property rights that is not detained by US Customs may be as much as \$44.3 billion.

ECONOMIC IMPACT OF SMUGGLED GOODS

Smuggled and contraband goods, particularly those being drop-shipped by Chinese and other foreign entities, do not enter the normal trade channels in the United States. Even for imported goods that are designed, sourced and manufactured in a foreign country, the transportation, wholesaling and retailing services provided by US based companies account for a large part of the overall value of the product at retail. It is estimated that just 21 product types account for over 60 percent (60.7 percent) of all of the contraband goods entering the United States. These illegitimate imports alone cost domestic retailers nearly \$54.1 billion in sales.

¹⁵ *Dulles CBP Picks Counterfeit Guitars to the Tune of \$158K*, US Department of Homeland Security, US Customs and Border Protection, Press Release, February 8, 2021, at: <https://www.cbp.gov/newsroom/local-media-release/dulles-cbp-picks-counterfeit-guitars-tune-158k>



Table 5**Estimate of Contraband Smuggled into the United States (Major Categories Only)**

Sector	Est. Illegitimate		
	Imports	Wholesale Losses	Retail Losses
Manufacturing	\$ 45,224,623,043	\$ 14,262,504,241	\$ 23,754,108,620
Agriculture	\$ 248,739,709	\$ 29,781,905	\$ 49,780,439
Other	\$ 44,289,545	\$ 1,105,391	\$ 11,636,053
Stone/Glass/Mineral	\$ 16,587,330	\$ 893,257	\$ 10,113,624
Grand Total	\$ 45,534,239,628	\$ 14,294,284,794	\$ 23,825,638,735

As Table 6 shows, these products range from cellular telephones (\$6.8 billion in illegitimate imports) to toys (\$1.5 billion in illegitimate imports) to industrial chemicals (\$681.6 million in illegitimate imports). A full list of estimated illegitimate imports is presented in the Appendix.

Table 6**Estimated cost to Wholesalers and Retailers of Contraband Smuggled into the United States (Major Categories Only)**

Product	Est. Illegitimate		
	Imports	Wholesale Losses	Retail Losses
Broadcast and wireless communications equipment manufacturing	\$ 6,788,446,370	\$ 2,930,859,162	\$ 4,369,776,756
Electronic computer manufacturing	\$ 3,838,501,673	\$ 1,119,699,991	\$ 1,509,552,606
Womens and girls cut and sew apparel manufacturing	\$ 1,563,024,952	\$ 556,673,289	\$ 884,442,075
Doll, toy, and game manufacturing	\$ 1,520,801,703	\$ 661,492,117	\$ 1,418,772,581
Footwear manufacturing	\$ 1,345,429,047	\$ 479,176,236	\$ 761,314,819
All other miscellaneous manufacturing	\$ 1,279,247,514	\$ 645,520,088	\$ 1,387,851,772
Computer terminals and other computer peripheral equipment manufacturing	\$ 1,278,541,938	\$ 373,081,559	\$ 495,379,647
Audio and video equipment manufacturing	\$ 1,118,366,652	\$ 595,857,979	\$ 1,345,192,102
Small electrical appliance manufacturing	\$ 1,056,908,994	\$ 292,227,241	\$ 650,526,925
Other plastics product manufacturing	\$ 1,034,964,317	\$ 114,045,158	\$ 150,270,891
Curtain and linen mills	\$ 787,949,724	\$ 323,460,951	\$ 554,879,284
Other basic organic chemical manufacturing	\$ 681,573,354	\$ 118,775,611	\$ 235,052,448
Other leather and allied product manufacturing	\$ 659,815,628	\$ 174,701,020	\$ 269,969,439
Lighting fixture manufacturing	\$ 658,256,763	\$ 189,154,242	\$ 412,528,583
Other motor vehicle parts manufacturing	\$ 622,294,826	\$ 84,913,830	\$ 106,226,764
Jewelry and silverware manufacturing	\$ 620,786,696	\$ 357,566,372	\$ 578,312,995
Other fabricated metal manufacturing	\$ 619,792,428	\$ 127,303,234	\$ 245,601,786
Institutional furniture manufacturing	\$ 571,878,265	\$ 118,562,675	\$ 276,546,864
Sporting and athletic goods manufacturing	\$ 571,171,845	\$ 230,416,705	\$ 491,583,357
Mens and boys cut and sew apparel manufacturing	\$ 569,791,383	\$ 202,931,913	\$ 322,418,060
All other miscellaneous electrical equipment and component manufacturing	\$ 461,899,543	\$ 132,271,233	\$ 178,463,573
Total	\$ 27,649,443,616	\$ 9,828,690,606	\$ 16,644,663,327

Based on data provided by the US Department of Commerce, Bureau of Economic Analysis, the economic losses to domestic wholesalers and retailers from counterfeits entering US commerce is over \$38.1 billion. This is not the loss in retail sales, but rather the value added that wholesalers and retailers would have generated had these products gone through normal supply chains.



These value-added figures can be converted into jobs using the IMPLAN input/output model. A full description of the model is included in the methodological section to this report, but in basic terms, the model uses the production structure of the US economy to calculate how much production is generated by each employee in each sector of the economy.

In this case, based on where these types of products are sold, it is estimated that 39,860 jobs in wholesaling and nearly 283,400 retail jobs are lost due to the impact of counterfeit goods skirting normal trade channels. Table 7 outlines these losses, along with the lost jobs from suppliers that would serve those establishments, and the lost jobs that would have been induced by employees re-spending their wages in the economy.

Table 7

Estimated 2020 Economic Impact of Contraband Smuggled into the United States (Major Categories Only)

	Jobs		Wages		Output
Wholesale	39,863	\$	3,700,006,458	\$	14,133,127,968
Retail	283,393	\$	9,929,601,160	\$	23,568,099,880
Total Direct	323,256	\$	13,629,607,618	\$	37,701,227,848
Supplier	137,786	\$	9,207,399,939	\$	26,076,081,172
Induced	192,405	\$	10,764,205,892	\$	34,113,113,912
Total	653,447	\$	33,601,213,448	\$	97,890,422,932

In effect, an imported belt, handbag, or bottle of perfume owes the bulk of its retail value to services provided by wholesalers, retailers and transportation companies that package, distribute and hold the product in inventory until such time as the consumer wishes to purchase it. All told, smuggling of counterfeit items is expected to cost the wholesale and retail sectors of the US economy nearly 323,260 full-time equivalent jobs, paying over \$13.6 billion in wages and benefits to workers.

LOST TAXES DUE TO SMUGGLED PRODUCTS

In addition to leading to lost jobs, the smuggling of counterfeit products into the country reduces tax revenues. This not only includes sales tax revenues that are not collected when consumers purchase items through normal trade channels, but customs duties for the federal government.

Table 8

Estimated Fiscal Losses due to Reduced Economic Activity

	Federal		State & Local		Total
From Wholesaling Activities	\$	2,401,440,480	\$	1,834,330,233	\$ 4,235,770,713
From Retailing Activities	\$	4,750,056,860	\$	4,559,275,826	\$ 9,309,332,686
Total	\$	7,151,497,340	\$	6,393,606,059	\$ 13,545,103,399



In addition, the lost jobs and wages resulting from smuggling lead to losses in taxes from businesses and workers. The loss of 653,450 workers due to smuggling will reduce state and local tax collections from income taxes, property taxes, sales taxes and excise taxes that these workers would have generated in the economy, but also lost profits, taxes and license fees from businesses. The same is true for the federal government, which would see reduced income taxes, social security taxes and excise taxes. All told, it is estimated that smuggling of counterfeit goods costs the government over \$13.5 billion in these tax revenues alone.

CONCLUSION

Based on an extremely conservative analysis of smuggled contraband products, over \$45.5 billion in contraband products are likely entering US commerce each year. This is on top of the over \$1.2 billion worth of products detained by the US Customs Service, which represents nearly 10 percent of all contraband products shipped between countries.

Its More Than Just the Economics

A recent report in the Cincinnati Enquirer stated that US Customs officers in that city seized 242 fake Cartier bracelets from China with a retail value of \$3.6 million. (<https://www.cincinnati.com/story/news/2021/04/19/fake-cartier-bracelets-seized-cincinnati-were-headed-indiana-customs-says/7283940002/>)

According to Cincinnati Port Director Richard Gillespie, "Purchasing counterfeit goods not only damages our small businesses and enterprises, but also supports criminal institutions that often engage in human rights violations such as child labor and forced labor."

Since these products do not enter normal distribution channels, they likely cost the US economy nearly 653,450 full-time equivalent jobs, paying over \$33.6 billion in wages and benefits to workers. In addition, over \$13.5 billion in personal and business tax revenues alone, not to mention state and local sales taxes, would be lost.

The majority of these products come from China and its dependent territories. Of the total \$1.23 billion intercepted, \$1.12 billion, or 91.1 percent was from China.

ABOUT JOHN DUNHAM & ASSOCIATES

John Dunham & Associates (JDA) is a leading economic consulting firm specializing in the economics of fast-moving issues. JDA is an expert at translating complex economic concepts into clear, easily understandable messages that can be transmitted to any audience. Our company's clients have included a wide variety of businesses and organizations, including some of the largest Fortune 500 companies in America, such as:

- Altria
- Diageo
- Feld Entertainment
- Forbes Media
- MillerCoors
- Verizon
- Wegmans Stores

John Dunham is a professional economist with over 35 years of experience. He holds a Master of Arts degree in Economics from the New School for Social Research as well as an MBA from Columbia University. He also has a professional certificate in Logistics from New York University. Mr. Dunham has worked as a manager and an analyst in both the public and private sectors. He has experience in conducting cost-benefit modeling, industry analysis, transportation analysis, economic research, and tax and fiscal analysis. As the Chief Domestic Economist for Philip Morris, he developed tax analysis programs, increased cost-center productivity, and created economic research operations. He has presented testimony on economic and technical issues in federal court and before federal and state agencies.

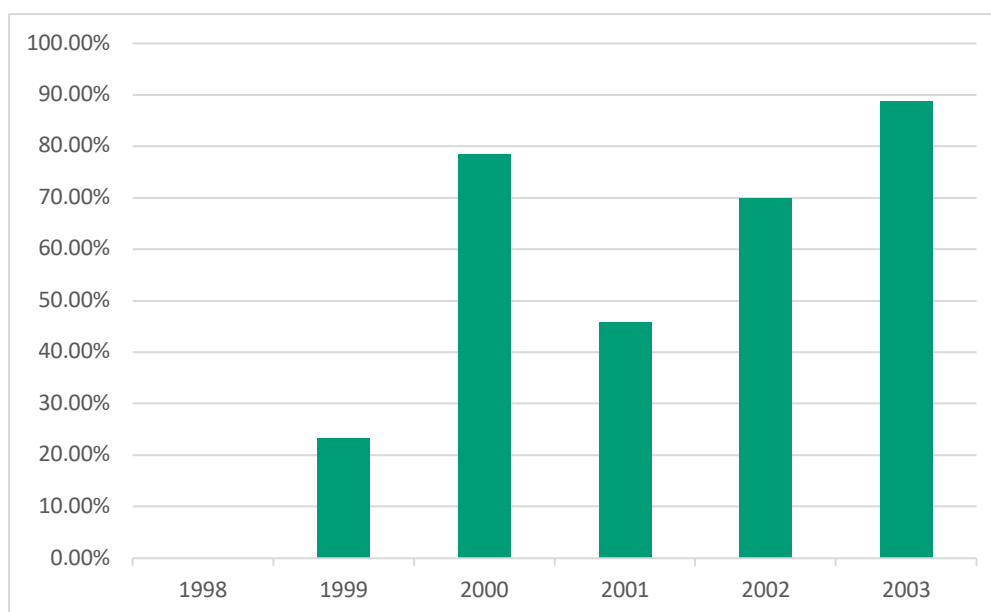
Prior to Phillip Morris John was an economist with the Port Authority of New York and New Jersey as well as for the City of New York.

METHODOLOGICAL APPENDIX

The most studied form of international smuggling for products legitimately sold at retail is the illicit trade in cigarettes. Spurred by what were then extraordinarily high excise taxes, and more stringent marketing restrictions in the late 1990s - the volume of contraband cigarettes exploded. In fact, based on research conducted by the General Accounting Office, in the early part the 2000s, when high taxes and minimal penalties began to encourage cigarette smuggling, seizures of cigarettes indicated that as many as 80 percent were counterfeit.¹⁶

Figure 2

Counterfeit Cigarettes as a Percent of Internationally Smuggled Cigarettes



Because of the profitability of the trade, by 2003, cigarettes accounted for about 44 percent of all illicit cargo seized by US customs agents, whereas today, watches and jewelry account for about 45 percent of the cargo seized. As is the case today, much of this was shipped by on-line retailers based in off-shore locations.

These figures suggest that the size of the counterfeit cigarette trade in the early part of the century can serve as a good proxy, at least when it comes to the larger IPR smuggling categories. And this market was substantial. Based on a number of studies by academics on both sides of the cigarette debate, the size of the overall tobacco market supplied by internationally smuggled products ranges fairly widely, but generally falls in the neighborhood of at least 10 percent.¹⁷

¹⁶ CIGARETTE SMUGGLING Federal Law Enforcement Efforts and Seizures Increasing, General Accounting Office, GAO-04-641, May 2004, at: <https://www.gao.gov/assets/gao-04-641.pdf>

¹⁷ See for example: von Lampe, Klaus, *The cigarette black market in Germany and in the United Kingdom*, *Journal of Financial Crime*, Vol. 13, No. 2, April 2006, at: www.emeraldinsight.com/1359-0790.htm. This paper reports that international smuggling accounts for between 15 and 21 percent of the market in the UK and 9.5 percent in Germany; Levinson, Bruce, *An Inquiry into the Nature, Causes and Impacts of Contraband Cigarettes*, Center for Regulatory Effectiveness, January 2011, which reports

The literature on international cigarette smuggling can be a good model to use to determine the volume of IPR related smuggling, since a large portion of this product is indeed counterfeit. The model uses a bounded Monte Carlo simulation analysis.

Monte Carlo simulation is a probability simulation used to estimate the possible outcomes of an uncertain event. In this case, the model is used to estimate the average amount of contraband cargo for each of the product categories imported from China.

The technique was invented during World War II to improve decision making under uncertain conditions and uses a probability simulation similar to a game of roulette – thus the name. Monte Carlo simulation predicts a set of outcomes based on a set of fixed input values and a given probability distribution. In this case, the model uses a normal probability distribution and a mean value of 10 percent (from the tobacco literature) and a standard deviation of 0.273, which is the measure of the amount of variation in the percentage of imports by HS code from China. In effect, the model is based on a simulation of smuggling values representing the range of legitimate imports from China and an average smuggling rate of 10 percent.

The Monte Carlo Simulation builds a model of possible results using the probability distribution, by recalculating the results over and over, each time using a different set of random numbers between the minimum and maximum values. In this case, the minimum value is the amount of contraband intercepted by US Customs in 2019, and the upper value is unbounded. The model is run 250 times, and the average mean percent of those 250 simulations is used in this model.

The model uses data from the US Customs service to measure overall imports in 2019 by commodity, for a total of 20,074 commodity types. The same data are used to estimate imports from China and its dependent territories of Hong Kong and Macau.¹⁸

For HS 9999950000 (Estimated Imports Of Low Valued Transactions), the percentage of low-value transactions from the customs smuggling data (0.7 percent by value) was split across categories and added back into the overall import data. So too was the intercepted contraband data. This provides an estimate of overall imports into the US of all products both legitimate and illegitimate. This was the baseline dataset that the Monte Carlo simulation was run with.

In this case, the model predicts that the overall value of smuggled counterfeit imports was approximately \$46.1 billion. From this, about \$612.5 million was removed because they were products classified as returns of US goods, or other non-commercial categories. This brought the total estimate of smuggled products to \$45,534.2 million of which the customs service intercepted \$1,230.9 million, or about 2.7 percent. The vast share of these imports would be from China.

that the smuggled share of the Brazilian cigarette market reached 20 percent, Joossens, Luk and Martin Raw, *From cigarette smuggling to illicit tobacco trade*, *Tobacco Control*, February 2012, at: <https://tobaccocontrol.bmj.com/content/tobaccocontrol/21/2/230.full.pdf>, which suggests that updated estimates of the illicit cigarette trade from 84 countries around the world showed that 11.6% of cigarette consumption in these countries is illicit, 16.8% in low-income countries, 11.8% in middle-income countries, 12.7% in low-income and middle-income countries combined and 9.8% in high-income countries.

¹⁸ *Margins After Redefinitions: 2007 Detail*, Industry Economic Accounts Directorate, Bureau of Economic Analysis (BEA), U.S. Department of Commerce.



The estimated illegitimate import data were linked to wholesale and retail margin data from the US Department of Commerce, Bureau of Economic Analysis. These data provide the markups that bring the import price of each product to both the wholesale and retail prices. This allows for a calculation of the value added domestically at each stage that is lost because the products are not going through normal retail channels. These value-added estimates are used to calculate the economic impacts of smuggled products on US wholesalers and retailers using the IMPLAN model.

IMPLAN Model

The analysis utilizes the IMPLAN model to calculate economic impacts.¹⁹ The model adopts an accounting framework through which the relationships between different inputs and outputs across industries and sectors are computed. This model can show the impact of a given economic decision – such as a retailer opening – on a pre-defined, geographic region. It is based on the national income accounts generated by the US Department of Commerce, Bureau of Economic Analysis (BEA).²⁰

The IMPLAN model is designed to run based on the input of specific direct economic factors. It uses a detailed methodology (see IMPLAN Methodology section) to generate estimates of the other direct impacts, tax impacts and supplier and induced impacts based on these entries. In the case of this model, estimated changes in the estimated retail sales price of contraband products is a starting point for the analysis.

Once the changes in sales have been established, they are entered into a model linked to the IMPLAN database. The IMPLAN data are used to generate estimates of employment direct wages and output. Wages are derived from the U.S. Department of Labor's ES-202 reports. IMPLAN uses this data to provide annual average wage and salary, establishment counts, employment counts, and payrolls at the county level. Since this data only covers payroll employees, it is modified to add information on independent workers, agricultural employees, construction workers, and certain government employees. Data are then adjusted to account for counties where non-disclosure rules apply. Wage data include not only cash wages, but health and life insurance payments, retirement payments and other non-cash compensation. In short, it includes all income paid to workers by employers.

Total output is the value of production by industry in a given state. It is estimated by IMPLAN from sources similar to those used by the Bureau of Economic Analysis (BEA) in its RIMS II series. Where no Census or government surveys are available, IMPLAN uses models such as the Bureau of Labor Statistics' growth model to estimate the missing output.

The model also includes information on income received by the federal, state and local governments and produces estimates for the following taxes at the federal level: corporate income; payroll, personal income, estate and gift, customs duties; and fines, fees, etc. State and local tax revenues include estimates of:

¹⁹ The model uses 2018 input/output accounts.

²⁰ The IMPLAN model is based on a series of national input-output accounts known as RIMS II. These data are developed and maintained by the U.S. Department of Commerce, Bureau of Economic Analysis as a policy and economic decision analysis tool.



corporate profits, property, sales, severance, estate and gift and personal income taxes; licenses and fees and certain payroll taxes.

*IMPLAN Methodology*²¹

Input-output analysis, for which Wassily Leontief received the 1973 Nobel Prize in Economics for, is an econometric technique used to examine the relationships within an economy. It captures all monetary market transactions for consumption in a given period and for a specific geography. The IMPLAN model uses data from many different sources – as published government data series, unpublished data, sets of relationships, ratios, or as estimates. IMPLAN gathers this data, converts them into a consistent format, and estimates the missing components.

There are three different levels of data generally available in the United States: federal, state, and county. Most of the detailed data are available at the county level, but there are many issues with disclosure, especially in the case of smaller industries. IMPLAN overcomes these disclosure problems by combining a large number of datasets and estimating variables that are not found in the merged data. The data are then converted into national input-output matrices (Use, Make, By-products, Absorption, and Market Shares) as well as national tables for deflators, regional purchase coefficients, and margins.

The IMPLAN Make matrix represents the production of commodities by industry. The Bureau of Economic Analysis (BEA) Benchmark I/O Study of the US Make Table forms the bases of the IMPLAN model. The Benchmark Make Table is updated to current year prices and rearranged into the IMPLAN sector format. The IMPLAN Use matrix is based on estimates of final demand, value-added by sector, and total industry and commodity output data as provided by government statistics or estimated by IMPLAN. The BEA Benchmark Use table is then bridged to the IMPLAN sectors. Once the re-sectoring is complete, the Use tables can be updated based on the other data and model calculations of interstate and international trade.

In the IMPLAN model, as with any input-output framework, all expenditures are in terms of producer prices. This allocates all expenditures to the industries that produce goods and services. As a result, all data not received in producer prices are converted using margins derived from the BEA Input-Output model. Margins represent the difference between producer and consumer prices. As such, the margins for any good add up to one.

Deflators, which account for relative price changes during different time periods, are derived from the Bureau of Labor Statistics (BLS) Growth Model. The 224 sector BLS model is mapped to the 544 sectors of the IMPLAN model. Where data are missing, deflators from BEA's Survey of Current Businesses are used.

Finally, the Regional Purchase Coefficients (RPCs) – essential to the IMPLAN model – must be derived. IMPLAN is derived from a national model, which represents the "average" condition for a particular industry. Since national production functions do not necessarily represent particular regional differences, adjustments need to be made. Regional trade flows are estimated based on the Multi-Regional Input-

²¹ This section is paraphrased from IMPLAN Professional: Users Guide, Analysis Guide, Data Guide, Version 2.0, MIG, Inc., June 2000.

Output Accounts, a cross-sectional database with consistent cross interstate trade flows developed in 1977. These data are updated and bridged to the 544 sector IMPLAN model.

Once the databases and matrices are created, they go through an extensive validation process. IMPLAN builds separate state and county models and evaluates them, checking to ensure that no ratios are outside of recognized bounds. The final datasets and matrices are not released until extensive testing takes place.



Appendix

Detail of all Estimated Illegitimate Imports 2020

Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Printed circuit assembly (electronic assembly) manufacturing	\$ 6,788,446,370	\$ 2,930,859,162	\$ 4,369,776,756
Telephone apparatus manufacturing	\$ 3,838,501,673	\$ 1,119,699,991	\$ 1,509,552,606
Apparel accessories and other apparel manufacturing	\$ 1,563,024,952	\$ 556,673,289	\$ 884,442,075
Gasket, packing, and sealing device manufacturing	\$ 1,520,801,703	\$ 661,492,117	\$ 1,418,772,581
Sawmills	\$ 1,345,429,047	\$ 479,176,236	\$ 761,314,819
Other communications equipment manufacturing	\$ 1,278,541,938	\$ 373,081,559	\$ 495,379,647
Semiconductor and related device manufacturing	\$ 1,118,366,652	\$ 595,857,979	\$ 1,345,192,102
Household laundry equipment manufacturing	\$ 1,056,908,994	\$ 292,227,241	\$ 650,526,925
Rubber and plastics hoses and belting manufacturing	\$ 1,034,964,317	\$ 114,045,158	\$ 150,270,891
Rope, cordage, twine, tire cord and tire fabric mills	\$ 787,949,724	\$ 323,460,951	\$ 554,879,284
Synthetic rubber manufacturing	\$ 681,573,354	\$ 118,775,611	\$ 235,052,448
Wood preservation	\$ 659,815,628	\$ 174,701,020	\$ 269,969,439
Household refrigerator and home freezer manufacturing	\$ 658,256,763	\$ 189,154,242	\$ 412,528,583
Other aircraft parts and auxiliary equipment manufacturing	\$ 622,294,826	\$ 84,913,830	\$ 106,226,764
Office supplies (except paper) manufacturing	\$ 620,786,696	\$ 357,566,372	\$ 578,312,995
Lawn and garden equipment manufacturing	\$ 619,792,428	\$ 127,303,234	\$ 245,601,786
Office furniture, except wood, manufacturing	\$ 571,878,265	\$ 118,562,675	\$ 276,546,864
Sign manufacturing	\$ 571,171,845	\$ 230,416,705	\$ 491,583,357
Other cut and sew apparel manufacturing	\$ 569,791,383	\$ 202,931,913	\$ 322,418,060
Heavy duty truck manufacturing	\$ 461,899,543	\$ 132,271,233	\$ 178,463,573
Institutional furniture manufacturing	\$ 370,895,568	\$ 99,770,948	\$ 221,438,797
Ball and roller bearing manufacturing	\$ 358,461,471	\$ 72,980,180	\$ 101,690,901
Special tool, die, jig, and fixture manufacturing	\$ 352,923,469	\$ 116,277,766	\$ 170,344,856
Printing machinery and equipment manufacturing	\$ 352,325,522	\$ 62,469,064	\$ 87,368,081
Other apparel knitting mills	\$ 351,407,665	\$ 38,721,461	\$ 73,553,608
Search, detection, and navigation instruments manufacturing	\$ 340,804,265	\$ 47,952,359	\$ 65,887,161
Industrial process furnace and oven manufacturing	\$ 339,978,357	\$ 60,951,654	\$ 84,580,057
Other major household appliance manufacturing	\$ 316,579,085	\$ 87,527,022	\$ 118,910,696
Petroleum refineries	\$ 306,228,776	\$ 33,490,188	\$ 55,221,063
Machine shops	\$ 283,466,010	\$ 108,639,147	\$ 165,027,891
Other motor vehicle parts manufacturing	\$ 282,658,043	\$ 38,544,167	\$ 48,079,575
Prefabricated metal buildings and components manufacturing	\$ 281,469,096	\$ 115,646,873	\$ 178,675,956
Storage battery manufacturing	\$ 279,050,693	\$ 78,270,316	\$ 105,577,776
Footwear manufacturing	\$ 276,237,820	\$ 98,382,445	\$ 156,309,949
Lighting fixture manufacturing	\$ 275,092,801	\$ 80,280,849	\$ 108,317,387
Computer terminals and other computer peripheral equipment manufacturing	\$ 273,072,137	\$ 56,205,724	\$ 83,123,205
Dental laboratories	\$ 271,125,276	\$ 95,689,488	\$ 134,256,356
Electronic connector manufacturing	\$ 256,455,845	\$ 35,422,288	\$ 49,551,993
Biological product (except diagnostic) manufacturing	\$ 247,024,930	\$ 99,811,333	\$ 148,111,793
Custom architectural woodwork and millwork	\$ 245,868,146	\$ 50,973,759	\$ 118,896,047
Flat glass manufacturing	\$ 240,974,918	\$ 115,211,532	\$ 247,368,416
Household cooking appliance manufacturing	\$ 240,716,871	\$ 69,122,729	\$ 92,814,270
Automatic environmental control manufacturing	\$ 238,028,784	\$ 32,876,904	\$ 45,991,337
Other communication and energy wire manufacturing	\$ 222,824,794	\$ 43,422,991	\$ 55,142,213
Rolled steel shape manufacturing	\$ 218,048,842	\$ 20,901,055	\$ 29,782,759
Custom compounding of purchased resins	\$ 206,789,271	\$ 101,473,642	\$ 161,927,503
Sporting and athletic goods manufacturing	\$ 197,696,075	\$ 46,169,040	\$ 60,035,431
Fabricated structural metal manufacturing	\$ 195,165,711	\$ 80,187,504	\$ 123,890,759
Motor vehicle metal stamping	\$ 185,470,035	\$ 25,615,379	\$ 32,122,030

Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Primary battery manufacturing	\$ 185,177,107	\$ 46,294,277	\$ 57,867,846
Surgical and medical instrument manufacturing	\$ 182,983,294	\$ 37,915,457	\$ 88,444,281
All other miscellaneous electrical equipment and component manufacturing	\$ 167,767,484	\$ 23,172,304	\$ 32,415,621
Commercial fishing	\$ 158,129,048	\$ 12,939,629	\$ 17,574,023
Oil and gas field machinery and equipment manufacturing	\$ 157,039,825	\$ 58,171,765	\$ 87,339,755
Elevator and moving stairway manufacturing	\$ 145,505,739	\$ 26,259,912	\$ 36,375,161
Cut and sew apparel contractors	\$ 144,001,132	\$ 51,286,183	\$ 81,483,446
Motor vehicle body manufacturing	\$ 143,825,208	\$ 34,817,321	\$ 50,997,554
Automobile manufacturing	\$ 142,118,534	\$ 19,629,632	\$ 27,459,794
Wood kitchen cabinet and countertop manufacturing	\$ 141,498,854	\$ 29,190,946	\$ 38,095,261
Other rubber product manufacturing	\$ 133,848,747	\$ 26,619,380	\$ 36,199,157
Ophthalmic goods manufacturing	\$ 126,638,468	\$ 44,506,998	\$ 62,507,960
Other commercial service industry machinery manufacturing	\$ 126,583,460	\$ 26,851,037	\$ 38,126,148
Air and gas compressor manufacturing	\$ 125,699,822	\$ 35,257,267	\$ 47,558,053
Mining machinery and equipment manufacturing	\$ 122,911,184	\$ 45,529,600	\$ 68,358,664
Audio and video equipment manufacturing	\$ 121,861,140	\$ 32,552,392	\$ 43,146,958
Metal coating and nonprecious engraving	\$ 120,456,985	\$ 46,132,462	\$ 69,309,935
Conveyor and conveying equipment manufacturing	\$ 119,668,223	\$ 21,596,928	\$ 29,916,008
Heating equipment (except warm air furnaces) manufacturing	\$ 117,906,047	\$ 29,242,762	\$ 42,179,332
Explosives manufacturing	\$ 117,652,955	\$ 46,633,771	\$ 69,220,575
Fiber optic cable manufacturing	\$ 115,087,944	\$ 32,280,765	\$ 43,543,089
Plastics pipe and pipe fitting manufacturing	\$ 113,315,800	\$ 12,486,535	\$ 16,452,805
Ready-mix concrete manufacturing	\$ 112,461,168	\$ 40,255,087	\$ 82,064,057
Other textile product mills	\$ 110,756,421	\$ 64,103,950	\$ 114,127,840
Power, distribution, and specialty transformer manufacturing	\$ 106,455,880	\$ 29,442,222	\$ 40,221,367
Ammunition, except for small arms, manufacturing	\$ 105,754,361	\$ 40,530,657	\$ 61,567,943
Air conditioning, refrigeration, and warm air heating equipment manufacturing	\$ 100,646,401	\$ 37,550,815	\$ 56,086,335
Analytical laboratory instrument manufacturing	\$ 100,577,730	\$ 50,461,087	\$ 78,557,183
Glass product manufacturing made of purchased glass	\$ 100,265,031	\$ 35,889,522	\$ 73,164,412
Other electronic component manufacturing	\$ 98,983,340	\$ 28,345,229	\$ 38,244,074
Leather and hide tanning and finishing	\$ 98,755,991	\$ 35,172,070	\$ 55,881,356
Musical instrument manufacturing	\$ 97,813,301	\$ 10,746,869	\$ 32,120,118
Paper mills	\$ 94,337,692	\$ 17,656,915	\$ 29,885,037
Construction machinery manufacturing	\$ 88,817,515	\$ 32,900,391	\$ 49,397,024
Totalizing fluid meter and counting device manufacturing	\$ 88,654,963	\$ 30,030,111	\$ 60,089,638
Plastics material and resin manufacturing	\$ 86,954,523	\$ 6,441,076	\$ 19,084,669
Small arms ammunition manufacturing	\$ 84,473,528	\$ 17,198,203	\$ 23,964,052
Motor vehicle steering, suspension component (except spring), and brake systems manufacturing	\$ 82,227,314	\$ 11,202,752	\$ 14,037,580
Printing	\$ 81,387,796	\$ 8,901,790	\$ 14,703,850
Motor vehicle seating and interior trim manufacturing	\$ 81,309,982	\$ 11,055,543	\$ 13,817,432
Electric lamp bulb and part manufacturing	\$ 79,317,199	\$ 39,794,417	\$ 61,951,445
Spring and wire product manufacturing	\$ 77,521,603	\$ 7,402,225	\$ 10,358,093
Turned product and screw, nut, and bolt manufacturing	\$ 76,608,765	\$ 10,152,969	\$ 13,878,319
Brick, tile, and other structural clay product manufacturing	\$ 75,501,714	\$ 18,843,273	\$ 25,594,886
Sanitary paper product manufacturing	\$ 75,413,520	\$ 8,309,994	\$ 10,949,611
Other household nonupholstered furniture manufacturing	\$ 74,955,760	\$ 20,163,108	\$ 44,751,447
Capacitor, resistor, coil, transformer, and other inductor manufacturing	\$ 73,798,110	\$ 10,383,654	\$ 14,267,274
Pottery, ceramics, and plumbing fixture manufacturing	\$ 69,436,795	\$ 14,174,025	\$ 18,884,941
All other industrial machinery manufacturing	\$ 69,085,576	\$ 12,249,216	\$ 17,131,527
Industrial process variable instruments manufacturing	\$ 67,961,041	\$ 23,999,444	\$ 33,672,301
Nonwoven fabric mills	\$ 67,676,547	\$ 9,401,256	\$ 15,650,694



Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Stationery product manufacturing	\$ 67,168,118	\$ 7,400,559	\$ 12,296,758
Photographic and photocopying equipment manufacturing	\$ 66,354,133	\$ 11,449,514	\$ 16,038,798
Packaging machinery manufacturing	\$ 64,436,986	\$ 2,872,283	\$ 3,746,577
Watch, clock, and other measuring and controlling device manufacturing	\$ 64,197,800	\$ 32,208,828	\$ 50,142,296
Bare printed circuit board manufacturing	\$ 64,093,069	\$ 9,379,474	\$ 10,752,079
Other basic organic chemical manufacturing	\$ 63,370,994	\$ 8,536,140	\$ 14,575,026
Support activities for printing	\$ 62,408,815	\$ 6,848,933	\$ 11,720,844
Unlaminated plastics profile shape manufacturing	\$ 62,268,631	\$ 20,828,677	\$ 33,131,374
Dehydrated food products manufacturing	\$ 60,882,286	\$ 9,916,861	\$ 13,813,392
Custom roll forming	\$ 60,617,980	\$ 12,341,385	\$ 17,196,540
Crown and closure manufacturing and metal stamping	\$ 59,627,131	\$ 12,139,655	\$ 16,915,449
Other engine equipment manufacturing	\$ 59,482,969	\$ 8,098,500	\$ 10,122,738
Burial casket manufacturing	\$ 58,915,073	\$ 29,729,089	\$ 63,916,785
Cutting tool and machine tool accessory manufacturing	\$ 58,737,756	\$ 10,152,205	\$ 13,894,376
Aircraft manufacturing	\$ 58,171,970	\$ 8,310,281	\$ 9,497,464
Wood windows and door manufacturing	\$ 58,076,523	\$ 10,870,016	\$ 18,397,939
Industrial mold manufacturing	\$ 55,113,861	\$ 18,174,398	\$ 26,696,662
Mens and boys cut and sew apparel manufacturing	\$ 54,464,622	\$ 19,397,643	\$ 30,818,960
Wood office furniture manufacturing	\$ 53,706,278	\$ 10,864,427	\$ 25,500,992
Mineral wool manufacturing	\$ 53,629,081	\$ 7,045,057	\$ 17,448,176
Switchgear and switchboard apparatus manufacturing	\$ 53,310,059	\$ 14,754,122	\$ 20,073,918
Dental equipment and supplies manufacturing	\$ 51,961,942	\$ 21,330,877	\$ 36,591,935
Nonferrous metal (exc aluminum) smelting and refining	\$ 50,364,633	\$ 4,316,969	\$ 6,413,782
Metal window and door manufacturing	\$ 49,571,596	\$ 4,664,741	\$ 6,691,639
Railroad rolling stock manufacturing	\$ 49,522,776	\$ 2,153,164	\$ 2,743,644
Secondary smelting and alloying of aluminum	\$ 48,741,232	\$ 4,672,087	\$ 6,657,446
Artificial and synthetic fibers and filaments manufacturing	\$ 48,568,695	\$ 5,351,899	\$ 7,051,896
Propulsion units and parts for space vehicles and guided missiles manufacturing	\$ 48,556,918	\$ 2,111,170	\$ 2,690,134
Welding and soldering equipment manufacturing	\$ 48,493,189	\$ 8,598,083	\$ 12,025,120
Blank magnetic and optical recording media manufacturing	\$ 48,406,072	\$ 24,285,923	\$ 37,808,018
Turbine and turbine generator set units manufacturing	\$ 47,770,146	\$ 8,469,884	\$ 11,845,824
Pump and pumping equipment manufacturing	\$ 46,867,145	\$ 6,380,878	\$ 7,975,793
Textile bag and canvas mills	\$ 46,209,370	\$ 22,079,820	\$ 36,976,296
Other pressed and blown glass and glassware manufacturing	\$ 45,994,989	\$ 21,990,476	\$ 47,215,319
Reconstituted wood product manufacturing	\$ 44,531,053	\$ 8,334,749	\$ 14,106,898
Rolling mill and other metalworking machinery manufacturing	\$ 43,630,978	\$ 7,541,157	\$ 10,320,878
Ground or treated mineral and earth manufacturing	\$ 41,939,623	\$ 8,530,093	\$ 18,639,832
Metal barrels, drums and pails manufacturing	\$ 41,843,293	\$ 3,953,697	\$ 5,525,836
Mechanical power transmission equipment manufacturing	\$ 41,393,393	\$ 11,610,342	\$ 15,661,034
Air purification and ventilation equipment manufacturing	\$ 40,972,345	\$ 78,013,001	\$ 231,888,988
Cement manufacturing	\$ 40,601,136	\$ 14,533,037	\$ 29,627,062
Bread and bakery product, except frozen, manufacturing	\$ 40,213,536	\$ 3,290,656	\$ 4,469,221
Broadcast and wireless communications equipment manufacturing	\$ 39,176,366	\$ 11,432,913	\$ 15,425,637
Nonupholstered wood household furniture manufacturing	\$ 38,987,679	\$ 1,737,878	\$ 2,266,871
Electromedical and electrotherapeutic apparatus manufacturing	\$ 38,769,203	\$ 11,102,090	\$ 14,979,211
Broom, brush, and mop manufacturing	\$ 38,072,127	\$ 9,501,817	\$ 12,906,353
Veneer and plywood manufacturing	\$ 38,060,712	\$ 7,123,714	\$ 12,057,172
Paint and coating manufacturing	\$ 36,977,704	\$ 14,940,978	\$ 22,171,180
Tire manufacturing	\$ 35,933,824	\$ 12,862,389	\$ 26,221,277
Motor vehicle transmission and power train parts manufacturing	\$ 35,802,573	\$ 1,501,030	\$ 1,984,570
Wiring device manufacturing	\$ 35,359,925	\$ 10,165,548	\$ 13,674,833



Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Fabric coating mills	\$ 33,111,746	\$ 19,164,521	\$ 34,119,666
Computer storage device manufacturing	\$ 33,105,732	\$ 5,869,811	\$ 8,209,409
Motor and generator manufacturing	\$ 32,096,434	\$ 8,878,472	\$ 12,004,985
Phosphatic fertilizer manufacturing	\$ 31,908,201	\$ 3,516,040	\$ 4,632,888
Electronic computer manufacturing	\$ 31,864,503	\$ 5,724,809	\$ 7,951,388
Motor vehicle gasoline engine and engine parts manufacturing	\$ 30,148,153	\$ 1,263,968	\$ 1,671,140
Hosiery and sock mills	\$ 30,114,347	\$ 3,903,712	\$ 6,229,931
Gypsum product manufacturing	\$ 29,979,259	\$ 4,088,081	\$ 10,406,024
Metal tank (heavy gauge) manufacturing	\$ 29,809,611	\$ 6,069,023	\$ 8,456,602
Software and other prerecorded and record reproducing	\$ 29,583,939	\$ 10,447,134	\$ 14,657,799
Surgical appliance and supplies manufacturing	\$ 29,110,978	\$ 6,035,332	\$ 14,077,384
Glass container manufacturing	\$ 28,278,550	\$ 10,122,209	\$ 20,635,145
Curtain and linen mills	\$ 28,005,895	\$ 3,766,875	\$ 5,997,501
Metal cans manufacturing	\$ 27,693,575	\$ 9,132,259	\$ 13,414,520
Electricity and signal testing instruments manufacturing	\$ 27,265,866	\$ 8,983,290	\$ 13,160,361
Textile and fabric finishing mills	\$ 27,075,452	\$ 3,608,602	\$ 5,755,585
Surface active agent manufacturing	\$ 25,974,737	\$ 2,636,626	\$ 3,514,761
Forestry, forest products, and timber tract production	\$ 25,847,313	\$ 2,847,392	\$ 6,065,171
Beet sugar manufacturing	\$ 25,243,676	\$ 4,051,118	\$ 5,685,021
Nonferrous metal, except copper and aluminum, shaping	\$ 25,024,546	\$ 2,144,961	\$ 3,186,799
Asphalt shingle and coating materials manufacturing	\$ 24,581,594	\$ 1,903,692	\$ 4,154,405
Showcase, partition, shelving, and locker manufacturing	\$ 23,421,081	\$ 4,804,324	\$ 11,168,706
Pharmaceutical preparation manufacturing	\$ 22,663,763	\$ 10,195,284	\$ 15,632,383
Ferrous metal foundries	\$ 21,998,937	\$ 1,885,623	\$ 2,801,497
Semiconductor machinery manufacturing	\$ 21,922,747	\$ 3,887,012	\$ 5,436,303
Knit fabric mills	\$ 21,297,099	\$ 12,326,402	\$ 21,945,381
Motorcycle, bicycle, and parts manufacturing	\$ 21,196,070	\$ 944,816	\$ 1,232,409
Bottled and canned soft drinks & water	\$ 21,041,116	\$ 3,427,362	\$ 4,649,064
Ornamental and architectural metal work manufacturing	\$ 20,443,616	\$ 4,162,173	\$ 5,799,591
Optical instrument and lens manufacturing	\$ 20,339,253	\$ 3,606,251	\$ 5,043,636
Relay and industrial control manufacturing	\$ 20,311,887	\$ 5,077,972	\$ 6,347,465
Miscellaneous nonmetallic mineral products manufacturing	\$ 20,289,498	\$ 9,700,529	\$ 20,827,814
Blind and shade manufacturing	\$ 20,086,834	\$ 5,403,360	\$ 11,992,606
Nitrogenous fertilizer manufacturing	\$ 19,108,502	\$ 2,105,611	\$ 2,774,445
Manufactured home (mobile home) manufacturing	\$ 18,991,849	\$ 3,554,650	\$ 6,016,387
Light truck and utility vehicle manufacturing	\$ 18,227,262	\$ 5,219,625	\$ 7,042,445
Cut stock, resawing lumber, and planing	\$ 17,816,495	\$ 3,334,662	\$ 5,644,049
Animal production, except cattle and poultry and eggs	\$ 16,477,928	\$ 1,176,389	\$ 1,736,868
Flour milling	\$ 16,148,052	\$ 2,629,001	\$ 3,567,387
Jewelry and silverware manufacturing	\$ 15,874,121	\$ 5,578,948	\$ 7,835,367
All other converted paper product manufacturing	\$ 15,838,224	\$ 1,737,113	\$ 2,944,176
Sawmill, woodworking, and paper machinery	\$ 15,467,696	\$ 2,742,499	\$ 3,835,609
Machine tool manufacturing	\$ 15,411,449	\$ 2,663,707	\$ 3,645,568
Fluid power cylinder and actuator manufacturing	\$ 15,065,186	\$ 7,602,032	\$ 16,344,175
Vegetable and melon farming	\$ 14,927,553	\$ 4,813,178	\$ 8,924,808
Polystyrene foam product manufacturing	\$ 14,349,612	\$ 1,581,218	\$ 2,083,481
Breakfast cereal manufacturing	\$ 14,173,890	\$ 2,308,547	\$ 3,275,929
Canned fruits and vegetables manufacturing	\$ 14,096,985	\$ 2,296,501	\$ 3,202,105
Fasteners, buttons, needles, and pins manufacturing	\$ 14,000,203	\$ 4,023,047	\$ 8,773,907
Power-driven handtool manufacturing	\$ 13,757,535	\$ 613,243	\$ 799,908
Fluid power pump and motor manufacturing	\$ 13,750,111	\$ 2,437,963	\$ 3,409,690
Industrial truck, trailer, and stacker manufacturing	\$ 13,152,212	\$ 586,261	\$ 764,713
Other fabricated metal manufacturing	\$ 12,887,559	\$ 5,112,949	\$ 7,774,168
Carbon and graphite product manufacturing	\$ 12,250,133	\$ 4,384,893	\$ 8,939,046
Mayonnaise, dressing, and sauce manufacturing	\$ 12,141,101	\$ 1,978,510	\$ 2,647,731
Handtool manufacturing	\$ 12,067,763	\$ 2,468,979	\$ 3,444,536



Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Printing ink manufacturing	\$ 11,966,283	\$ 5,871,979	\$ 9,370,265
Confectionery manufacturing from purchased chocolate	\$ 11,920,339	\$ 1,703,799	\$ 2,284,444
Iron, steel pipe and tube manufacturing from purchased steel	\$ 11,122,124	\$ 417,080	\$ 7,345,429
Other millwork, including flooring	\$ 11,029,186	\$ 2,064,301	\$ 3,493,912
Dry, condensed, and evaporated dairy product manufacturing	\$ 10,850,472	\$ 1,767,388	\$ 2,461,830
Food product machinery manufacturing	\$ 10,840,416	\$ 1,922,060	\$ 2,688,157
All other crop farming	\$ 10,591,817	\$ 3,410,239	\$ 6,324,125
Manufactured ice	\$ 10,209,574	\$ 1,564,808	\$ 2,195,588
All other food manufacturing	\$ 9,659,933	\$ 1,573,495	\$ 2,134,376
Polish and other sanitation good manufacturing	\$ 9,029,646	\$ 720,407	\$ 1,049,497
Secondary processing of other nonferrous metals	\$ 8,800,758	\$ 754,351	\$ 1,120,750
Rendering and meat byproduct processing	\$ 8,438,593	\$ 3,566,997	\$ 5,618,248
Nonferrous metal foundries	\$ 8,411,298	\$ 315,424	\$ 5,555,107
Tree nut farming	\$ 8,335,891	\$ 2,382,416	\$ 4,272,779
Prefabricated wood building manufacturing	\$ 7,967,465	\$ 1,491,248	\$ 2,523,996
Irradiation apparatus manufacturing	\$ 7,915,839	\$ 3,971,474	\$ 6,182,740
Narrow fabric mills and schiffli machine embroidery	\$ 7,860,605	\$ 1,018,967	\$ 1,626,169
Iron and steel mills and ferroalloy manufacturing	\$ 7,724,714	\$ 2,765,035	\$ 5,636,803
All other miscellaneous manufacturing	\$ 7,235,708	\$ 3,651,205	\$ 7,849,997
Aluminum sheet, plate, and foil manufacturing	\$ 7,042,747	\$ 603,664	\$ 896,872
Drilling oil and gas wells	\$ 6,603,486	\$ 309,538	\$ 4,348,047
Doll, toy, and game manufacturing	\$ 6,423,645	\$ 2,267,127	\$ 3,180,873
Animal, except poultry, slaughtering	\$ 6,156,704	\$ 561,292	\$ 765,918
Greenhouse, nursery, and floriculture production	\$ 6,104,286	\$ 876,547	\$ 1,743,027
Scales, balances, and miscellaneous general purpose machinery manufacturing	\$ 6,076,192	\$ 2,003,691	\$ 2,943,253
Pulp mills	\$ 5,305,671	\$ 222,441	\$ 294,098
Speed changer, industrial high-speed drive, and gear manufacturing	\$ 5,246,153	\$ 502,870	\$ 716,559
All other transportation equipment manufacturing	\$ 5,172,980	\$ 211,168	\$ 274,932
Fiber, yarn, and thread mills	\$ 5,156,957	\$ 2,326,946	\$ 3,685,230
Concrete block and brick manufacturing	\$ 5,153,572	\$ 702,760	\$ 1,788,843
Roasted nuts and peanut butter manufacturing	\$ 4,777,010	\$ 778,202	\$ 1,036,455
Cookie and cracker manufacturing	\$ 4,473,872	\$ 728,819	\$ 970,540
Laminated plastics plate, sheet (except packaging), and shape manufacturing	\$ 4,471,119	\$ 492,683	\$ 649,181
Copper rolling, drawing, extruding and alloying	\$ 4,413,782	\$ 378,324	\$ 562,082
Rice milling	\$ 4,384,732	\$ 713,861	\$ 968,664
In-vitro diagnostic substance manufacturing	\$ 4,197,708	\$ 1,696,099	\$ 2,516,872
Ice cream and frozen dessert manufacturing	\$ 4,013,242	\$ 653,698	\$ 929,293
Soap and other detergent manufacturing	\$ 3,982,268	\$ 683,043	\$ 941,337
Fruit farming	\$ 3,738,782	\$ 1,205,517	\$ 2,235,324
Malt manufacturing	\$ 3,537,674	\$ 576,643	\$ 962,296
Frozen fruits, juices and vegetables manufacturing	\$ 3,434,659	\$ 490,923	\$ 658,227
Small electrical appliance manufacturing	\$ 3,385,426	\$ 987,662	\$ 1,332,740
Paperboard container manufacturing	\$ 3,359,511	\$ 370,183	\$ 703,184
Fats and oils refining and blending	\$ 3,282,020	\$ 534,596	\$ 760,817
Toilet preparation manufacturing	\$ 3,121,250	\$ 1,531,630	\$ 2,444,113
Phosphate rock mining	\$ 3,113,671	\$ 145,953	\$ 2,050,188
Broadwoven fabric mills	\$ 3,031,579	\$ 1,470,063	\$ 2,258,273
Hardware manufacturing	\$ 3,020,228	\$ 285,376	\$ 398,852
Pesticide and other agricultural chemical manufacturing	\$ 3,016,974	\$ 1,358,852	\$ 2,287,045
Aircraft engine and engine parts manufacturing	\$ 2,919,665	\$ 706,939	\$ 1,035,506
Paper bag and coated and treated paper manufacturing	\$ 2,890,972	\$ 318,526	\$ 529,263
Wood container and pallet manufacturing	\$ 2,730,007	\$ 510,968	\$ 864,833
Canned specialties	\$ 2,681,739	\$ 436,871	\$ 581,881
Wet corn milling	\$ 2,532,769	\$ 30,166	\$ 472,718
Support activities for oil and gas operations	\$ 2,311,056	\$ 108,331	\$ 1,521,709
Grain farming	\$ 2,302,584	\$ 27,424	\$ 429,756



Industry/Product	Illegitimate Imports	Wholesale Cost	Retail Cost
Coffee and tea manufacturing	\$ 2,142,028	\$ 305,232	\$ 399,718
Motor home manufacturing	\$ 2,045,321	\$ 91,170	\$ 118,922
Adhesive manufacturing	\$ 2,015,230	\$ 814,261	\$ 1,208,296
Overhead cranes, hoists, and monorail systems manufacturing	\$ 1,969,791	\$ 355,495	\$ 492,431
Iron and steel forging	\$ 1,777,338	\$ 361,853	\$ 504,208
Oilseed farming	\$ 1,751,747	\$ 20,864	\$ 326,947
Other leather and allied product manufacturing	\$ 1,591,360	\$ 565,189	\$ 896,040
Sand and gravel mining	\$ 1,568,112	\$ 180,936	\$ 278,363
Plastics packaging materials and unlaminated film and sheet manufacturing	\$ 1,566,812	\$ 1,995,406	\$ 5,459,039
Small arms, ordnance, and accessories manufacturing	\$ 1,553,870	\$ 616,475	\$ 937,342
Other clay, ceramic, refractory minerals mining	\$ 1,486,922	\$ 69,699	\$ 979,059
Military armored vehicle, tank, and tank component manufacturing	\$ 1,348,372	\$ 55,043	\$ 71,663
Fertilizer mixing	\$ 1,291,332	\$ 581,618	\$ 978,906
Tortilla manufacturing	\$ 1,285,363	\$ 209,396	\$ 275,464
Photographic film and chemical manufacturing	\$ 1,260,813	\$ 618,694	\$ 987,286
Dry pasta, mixes, and dough manufacturing	\$ 1,258,522	\$ 205,023	\$ 269,712
Distilleries	\$ 1,105,216	\$ 528,800	\$ 852,616
Alumina refining and primary aluminum production	\$ 1,059,392	\$ 101,548	\$ 144,700
Meat processed from carcasses	\$ 1,017,876	\$ 92,797	\$ 126,628
Synthetic dye and pigment manufacturing	\$ 1,007,546	\$ 78,028	\$ 170,280
Power boiler and heat exchanger manufacturing	\$ 976,390	\$ 198,786	\$ 276,989
Other basic inorganic chemical manufacturing	\$ 858,911	\$ 64,418	\$ 268,410
Nonchocolate confectionery manufacturing	\$ 697,268	\$ 99,662	\$ 133,626
Potash, soda, and borate mineral mining	\$ 634,801	\$ 29,756	\$ 417,983
Other aluminum rolling, drawing and extruding	\$ 631,714	\$ 54,147	\$ 80,447
Sugar cane mills and refining	\$ 547,905	\$ 89,240	\$ 119,518
Flavoring syrup and concentrate manufacturing	\$ 497,302	\$ 70,864	\$ 92,800
Copper, nickel, lead, and zinc mining	\$ 461,345	\$ 12,815	\$ 284,158
Paperboard mills	\$ 452,578	\$ 49,633	\$ 87,120
All other miscellaneous wood product manufacturing	\$ 405,523	\$ 17,002	\$ 22,479
Commercial logging	\$ 392,831	\$ 73,525	\$ 124,444
Asphalt paving mixture and block manufacturing	\$ 342,530	\$ 38,252	\$ 62,819
Breweries	\$ 329,990	\$ 55,615	\$ 73,371
Tobacco product manufacturing	\$ 323,305	\$ 209,248	\$ 366,263
Cut stone and stone product manufacturing	\$ 321,208	\$ 45,887	\$ 117,995
Boat building	\$ 290,554	\$ 12,633	\$ 16,097
Seafood product preparation and packaging	\$ 231,423	\$ 18,937	\$ 25,720
Cheese manufacturing	\$ 229,086	\$ 37,315	\$ 52,847
Fabricated pipe and pipe fitting manufacturing	\$ 197,345	\$ 78,294	\$ 119,045
Guided missile and space vehicle manufacturing	\$ 193,654	\$ 8,420	\$ 10,729
Industrial gas manufacturing	\$ 192,987	\$ 14,946	\$ 32,616
Other chemical and fertilizer mineral mining	\$ 166,920	\$ 7,824	\$ 109,908
Travel trailer and camper manufacturing	\$ 162,651	\$ 39,383	\$ 57,687
Mattress manufacturing	\$ 156,220	\$ 33,138	\$ 77,465
Other nonmetallic minerals	\$ 142,989	\$ 6,703	\$ 94,151
Truck trailer manufacturing	\$ 116,169	\$ 5,178	\$ 6,754
Upholstered household furniture manufacturing	\$ 106,961	\$ 4,768	\$ 6,219
Sheet metal work manufacturing	\$ 105,276	\$ 10,091	\$ 14,379
All other petroleum and coal products manufacturing	\$ 99,369	\$ 7,696	\$ 16,794
Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming	\$ 94,197	\$ 3,747	\$ 12,437
Coal mining	\$ 90,641	\$ 20,681	\$ 28,542
Steel wire drawing	\$ 72,678	\$ 6,967	\$ 9,927
Chocolate and confectionery manufacturing from cacao beans	\$ 60,359	\$ 8,627	\$ 11,567
Tobacco farming	\$ 39,406	\$ 4,341	\$ 9,247
Petrochemical manufacturing	\$ 32,866	\$ 2,545	\$ 5,555
Other concrete product manufacturing	\$ 23,786	\$ 3,244	\$ 8,256
Frozen cakes and other pastries manufacturing	\$ 22,869	\$ 2,627	\$ 3,467
Abrasive product manufacturing	\$ 21,111	\$ 3,016	\$ 7,755
Fluid milk manufacturing	\$ 14,618	\$ 1,679	\$ 2,216
Petroleum lubricating oil and grease manufacturing	\$ 10,704	\$ 829	\$ 1,809
Other metal ore mining	\$ 5,902	\$ 681	\$ 1,048
Wineries	\$ 4,348	\$ 733	\$ 967
Cotton farming	\$ 3,763	\$ 415	\$ 883
Poultry processing	\$ 2,695	\$ 454	\$ 599
Sugarcane and sugar beet farming	\$ 2,561	\$ 282	\$ 601
Oil and gas extraction	\$ 1,484	\$ 339	\$ 467
Soybean and other oilseed processing	\$ 391	\$ 64	\$ 106

